

PATENT SPECIFICATION

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(54) IMPROVEMENTS IN OR RELATING TO THE JOINING OF TEXTILE MATERIALS

(71) We, THOMAS FRENCH & SONS (ELECTRICAL) LIMITED a British Company of Poynton Industrial Estate, Stockport, Cheshire, SK12 1NF, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

This invention concerns the joining of textile materials and in particular though not exclusively the joining of pieces of carpet material, or carpet underlay material, for convenience such materials will be referred to generically as "carpet pieces".

For many years carpet pieces have been joined together by stitching. More recently it has become known to join carpet pieces together by the use of an adhesive coated tape which is caused to adhere to the carpet pieces by applying heat and pressure. Carpet pieces may be joined together more rapidly using adhesive tape than by sewing but it is not always possible to obtain as strong a joint as is desirable using such tape. It has also been proposed to produce and use a tape which is woven using thermoplastic yarn and electrical resistance wires so that when the tape is used the thermoplastic yarn can be melted or plasticised by heat from the resistance wires when the latter are connected to a source of power. The carpet pieces can then be joined by applying pressure whilst the thermoplastic material is in an adhesive condition. A tape woven with electrical resistance wires can be coated with a thermoplastic material so that again heating can be achieved by connecting the resistance wires to a source of power.

Tapes woven with resistance wires and thermoplastic yarn, or tapes woven with resistance wires and coated with thermoplastic material, when used have to have their resistance wires joined to a power lead and

unless all of the wires are so connected it is possible that the full adhesive capability of the thermoplastic material is not reached.

The object of the present invention is to provide a method of joining textile pieces, particularly carpet pieces, which is relatively simple to carry out.

Thus according to the present invention the method of joining textile materials includes the steps of laying two pieces of material to be joined in edge-to-edge abutting relationship, locating an extruded thermoplastic material strip having carbon black particles dispersed throughout its volume and usable as an electrically conductive component of said strip on one side of the two pieces of material so that the strip overlaps the abutting edges of the pieces of material, connecting the strip to a source of electricity to cause current to pass through the electrically conductive component thereof to raise the temperature of the strip thus to render the thermoplastic material adhesive, applying pressure to the pieces of material in the joint region to bond the pieces to the strip, disconnecting the strip from the source of electricity and allowing the material of the strip to cool.

The invention will be described further, by way of example only, with reference to one practical form thereof.

A strip material suitable for joining carpet pieces in edge-to-edge abutting relationship is in the form of an extrusion of about two inches in width and of a thickness compatible with the flow characteristics of the thermoplastics material. The material of the strip is high density polyethylene throughout which is dispersed carbon black. The strip is thus electrically conductive and thermoplastic.

To join together two pieces of carpet material the pieces are laid in edge-to-edge abutting relationship and a strip of joining material is laid on the underside of the

